EXHIBIT T

PROVING ANTITRUST DAMAGES

Legal and Economic Issues
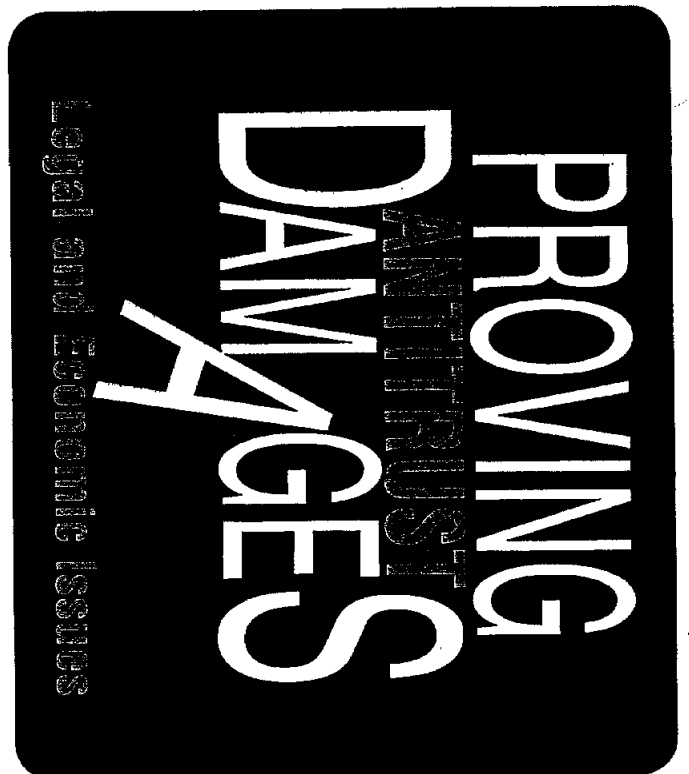
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**Section of Antitrust Law
American Bar Association**

CONTENTS

CHAPTER 6
OVERCHARGES

This chapter will survey common legal and economic issues that arise in the determination of damages for price enhancement caused by price-fixing, monopolization, and tying arrangements. This analysis will incorporate the analogous task of calculating damages from the sale of a product to the defendants at an anticompetitively low price.[1]

A. Horizontal Price Fixing

The measure of damages that is commonly used in price fixing cases is based on the overcharge itself. Simply put, the plaintiff's damages depend on the difference between the actual price paid and the competitive price, or the price that would have been charged absent the illegal agreement. Early on, the Supreme Court recognized the overcharge as the principal measure of harm in price fixing cases.[2] The overcharge measure has the virtues of conceptual simplicity, theoretical justification, even if imperfect, and relative ease of calculation. The major practical and conceptual difficulties involved in overcharge damage actions can be isolated by focusing on the characteristics of the most common case: the plaintiff is a direct purchaser; the plaintiff purchases from one or more of the colluding firms; and the plaintiff recovers the overcharge on the amount actually purchased. We consider the issues that arise in such cases, including those alleging bid-rigging in the next subsection.

In the remainder of the subsection, we consider issues beyond the most common case. In the second subsection, we discuss special problems in proof of damages in cases in which the alleged collusion relates only to one component of price and in cases involving regulated prices. In the

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[1]   For linguistic convenience and because most cases do involve anticompetitive price increases rather than decreases, the exposition in this chapter will generally assume a price enhancement and use the term "overcharge" to refer to the anticompetitive price differential. The analysis applies equally, however, to monopsony pricing.

[2]   See Chattanooga Foundry & Pipe Works v. Atlanta, 203 U.S. 390, 396 (1906) (affirming an award of damages based on "the difference between the price paid and the market or fair price that the city would have had to pay under natural conditions had the combination been out of the way").

third subsection, we examine the possible use of lost profits as a measure of damages for price enhancement. Finally, we discuss some important harms associated with price fixing other than the overcharge to direct purchasers from cartel members: the harm to indirect purchasers from the cartel; the harm to firms who pay higher prices to nonparticipants in the cartel; and the deadweight welfare loss associated with the cartel.

## 1. Overcharge to Purchasers from Cartel Members

The most straightforward damage calculation is for the harm sustained by plaintiffs who purchase the price-fixed good directly from participants in the price fixing conspiracy. The typical measure of damages is the difference between the actual price and the presumed competitive price multiplied by the quantity purchased. This was the calculation that the Supreme Court approved in *Chattanooga Foundry*.[3] When all firms in an industry collude and all direct purchasers sue, the measure corresponds to the wealth transfer from consumers to producers occasioned by a price fixing agreement.

a. Estimating the Overcharge.

The plaintiff's problem in such cases is to estimate the extent of the overcharge, that is, the difference between the actual price charged and the price but for the conspiracy. The problem can be seen with the aid of Figure 1, which is a plot of hypothetical prices over the 1970-1993 period.

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3 *Id.*

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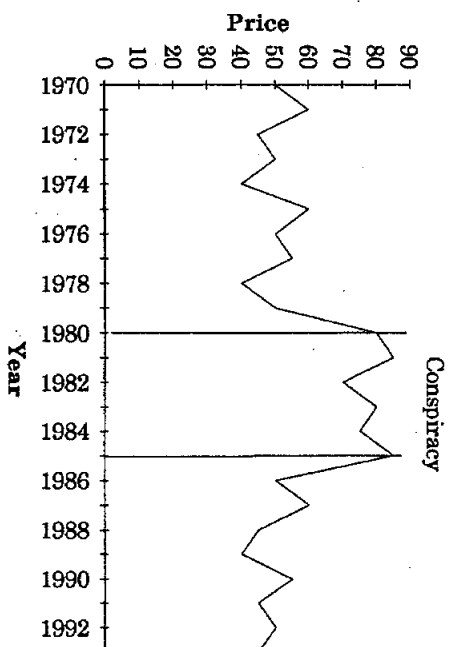
Figure 1

For illustrative purposes, we have assumed that the evidence shows that a price fixing cartel was implemented in 1980 and fell apart with the filing of a complaint in 1985. Thus, the data includes a 10-year preconspiracy period and an 8-year postconspiracy period. While the defendants cannot escape liability by arguing that the conspiracy was ineffective, they may reduce the amount of damages. During the damage phase of the case, the real fight will be over the "but for" prices during the 1980-1985 period. In this instance, the average preconspiracy price was $50 while the average postconspiracy price was $50.625. In marked contrast, the price during the conspiracy period was $79.17.

It would be easy to convince a jury that the prices during the conspiracy were significantly higher than during the preconspiracy and postconspiracy periods. But should one compare the actual collusive prices with an average nonconspiracy price of, say, $50? The defendants may try to argue that the prices during the 1980-85 period of time would have been well above $50 anyway. If that can be shown, the estimated overcharge (and hence damages) will be reduced.[4] In this section, we shall

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4 In the hypothetical described above, advanced econometric techniques can be used to test statistically whether the same process generated the observed prices. These techniques build on multiple regression as a tool.

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examine the use of multiple regression techniques to estimate the overcharges in price fixing cases.

In spite of various theoretical difficulties,[5] regression analyses of overcharges in price fixing cases have been used by plaintiffs and defendants.[6] Typically, a reduced form model is employed in which price is expressed as a function of demand and supply variables. As discussed in Chapter 5, the explanatory (or independent) variables are assumed to represent the major influences on price. As a result, the error term picks up the collective influence of a host of minor factors. The model provides an estimate of the average price given specific values of the independent variables and their estimated coefficients. The reduced form price equation has been used in two ways: with and without a dummy variable to account for the influence of a conspiracy.

Dummy Variable Model. When the analyst uses a dummy variable to account for the influence of the conspiracy, the reduced form price equation includes a dummy variable as an explanatory variable. This variable takes on the value of one for observations during the conspiracy and zero for observations outside the conspiracy period. Obviously, one must employ data that cover the conspiracy period and the non-conspiracy period. The estimated coefficient of the dummy variable provides an estimate of the average overcharge due to the price fixing activity.[7]

This is the approach that the plaintiffs employed in *In re Chicken Antitrust Litigation*.[8] In their model, plaintiffs' experts had the prices of substitutes for chicken (beef, pork, and turkey), seasonal dummies, the

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For an excellent discussion, *see* G.S. MADDALA, ECONOMETRICS 194-201 (1977).

[5] *See* Franklin M. Fisher, *Multiple Regression in Legal Proceedings,* 80 COLUM. L. REV. 702 (1980) (arguing that there is no way to determine the "but for" values of the regression coefficients, which theoretically would reflect the effect of the cartel, from a single set of data).

[6] Much of this examination is based on Michael O. Finkelstein & Hans Levenbach, *Regression Estimates of Damages in Price-Fixing Cases,* 46 LAW & CONTEMP. PROBS. 145 (1983).

[7] This assumes that the model is linear. If a logarithmic form is used, the coefficient of the dummy variable is an estimate of the percentage overcharge.

[8] 560 F. Supp. 963, 993 (N.D. Ga. 1980).

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consumer price index, consumer disposable income, per capita production of chicken, and a dummy for the conspiracy period. This approach did not prove useful as the data yielded a negative coefficient for the collusion dummy variable. This, of course, meant that one should infer that the collusive prices were *lower* than the prices would have been otherwise.[9] The fact that the data did not cooperate in estimating an overcharge does not mean that the use of the dummy variable approach was incorrect. Some of the difficulty experienced in this application no doubt stemmed from other econometric problems. For example, there may have been simultaneous equation bias in the estimates because the price of chicken (which was the dependent variable) influences the prices of substitutes. As a result, the price of chicken should have been estimated as part of a simultaneous system of equations rather than a single equation. Had the system been solved to yield the chicken price as a function only of variables that are not themselves influenced by chicken prices, the dummy variable could be used to isolate observations associated with the conspiracy period.

Residuals Model. Another way to proceed is to estimate the reduced form price equation for the non-conspiracy period. The estimated relationship then provides an explanation for noncollusive prices. One uses the estimated coefficients and observed values of the independent variables during the conspiracy period to predict the average prices during the conspiracy period. The differences or residuals between the predicted prices and the actual prices are presumed to be overcharges due to the conspiracy.

Alternatively, one can estimate the equation using data from the conspiracy period and reverse the procedure, as was done in *In re Corrugated Container Antitrust Litigation*.[10] In that case, the plaintiffs' expert estimated the price equation for the conspiracy period. The estimated coefficients and actual observations of the independent variables during the nonconspiracy period were used to predict the prices during the nonconspiracy period. The differences or residuals were then compared to the predicted prices to obtain a percentage difference. The plaintiffs then

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[9] The experts then proceeded to exclude observations that they did not like in order to find some damages. This approach should be discouraged as it is unsound econometric practice.

[10] 441 F. Supp. 921 (S.D. Tex. 1977).

inferred that the same percentage difference between competitively determined prices and the actual prices during the conspiracy existed. This was their measure of damages.[11]

Some Caveats. There are a host of problems in practice, but we shall remark on just a few. First, these procedures depend on a clear identification of the conspiracy and nonconspiracy periods. Usually, it will not be easy to identify the breaking points. For purposes of liability, it is not too important to have precise dates, but for damage estimation it is. Moreover, it is unlikely that the conspiracy will function smoothly at all times. To the extent that there are episodes of cheating on the collusive agreement, some competitive observations will be intermingled with the collusive prices. If these outbreaks of competition can be identified clearly, they can be used to provide further information on the competitive benchmarks. If they cannot, then the sporadic competition may confuse matters.

Second, it is rare when the analyst can obtain observations on the true variables of interest. For example, one may want marginal cost and have to settle for average variable cost. Similarly, one may use the Consumer Price Index or Producer Price Index to control for inflation generally when industry specific factors are quite different. In other words, in practice one must rely on proxies for the variables of interest. If the proxies are highly correlated with the true variables, estimation problems are reduced, but this is largely unobservable. In any event, proxies are necessarily somewhat imperfect measures of the true variables. As a result, some bias will be introduced into the estimation.

Third, it is possible that the values of some independent variables have been influenced by the conspiracy. For example, the conspirators may agree on price, but compete on advertising and promotion.[12] As firms scramble for market share at the inflated collusive price, expenditures on promotion will rise above the level that they would have assumed but for

11 To illustrate this last step more generally, suppose the difference or residual between actual and predicted prices was $30 [$150 - $120] for the nonconspiracy period, or 25% of the predicted price of $120. The inference would then be drawn that prices were inflated by 25% during the conspiracy period.

12 *See, e.g.,* George J. Stigler, *Price and Nonprice Competition,* 72 J. POL. ECON. 149 (1968).

the collusion. Similarly, the absence of competition could lead to reduced efforts at cost control.[13] To the extent that these costs are used in predicting price, their inflation due to the conspiracy leads to a downward bias in the damage estimate.

Fourth, over time, demand and supply conditions change from what they were during the estimation period. As a result, when one predicts the "but for" price, one is necessarily forecasting outside the sample range. The effect of this is to reduce the precision of the estimate in the sense that the standard error will be high. This, in turn, means that it will be hard to determine how much of any observed price differential is due to collusion and how much is due to random error.[14]

b. Bid-Rigging Cases

Bid-rigging, a classic price-enhancement antitrust violation, can be defined as an agreement between competitors that one will not submit a bid lower than the other. Calculating the damages suffered by the direct purchaser requires inquiry into the same question that is at the foundation of all overcharge cases—what would the transaction price have been in the absence of collusion? Because of the nature of bidding markets and of the heterogeneous products typically sold in them, however, answering that question often involves distinctive problems.[15]

For example, direct evidence of damages is apt to be misleading. Suppose the cartel misestimates the level of prices bid by non-conspirators and a non-conspirator wins the contract. A deduction that the purchaser was not injured would be incorrect. If the non-conspirators suspected collusion, they would be inclined to inflate their bids, much like a competitive fringe raises price under the protection of the cartel's price umbrella. Further, given that collusion is likely to be more successful as

13 *See* Harvey Leibenstein, *Allocative Efficiency v. 'X-inefficiency,'* 56 AM. ECON. REV. 392 (1966), for the classic article on this issue. For a skeptical view, *see* George J. Stigler, *The Xistence of X-Efficiency,* 66 AM. ECON. REV. 213 (1976).

14 *See* Fisher, *supra* note 5.

15 *See generally* Jeffrey H. Howard & David Kaserman, *Proof of Damages in Construction Industry Bid-Rigging Cases,* 34 ANTITRUST BULL. 359 (1989); John M. Kuhlman & S. R. Johnson, *Estimating Damages on Highway Construction Contracts,* 29 ANTITRUST BULL. 719 (1984).

the cartel includes more of the firms that would otherwise be the most effective competitors, non-conspirators are likely to be relatively high-cost suppliers. In a competitive market, a lower-cost supplier, which is to say one of the cartel members, would have won the contract. Moreover, even the costs of the cartelists may be inflated if the long-term absence of competitive pressure has induced the firms to be lax in containing costs.[16]

An alternative method of calculating damages is to conduct an engineering cost analysis of rigged and unrigged jobs that are comparable in design. After adjustments are made for minor cost differences, the difference between the bid price on the competitive job and the bid price on the rigged job would provide a measure of damages. This approach becomes difficult as the number of rigged jobs increases, for it becomes hard to find sufficient comparable unrigged jobs and expensive to perform the analysis when comparable jobs are found. Even so, this provides a better measure than the simple difference between the collusive bid price and any pre-bid cost estimate made by the contracting authority. Such estimates are based on historic average costs, whereas a bidder calculates its bid on the basis of its marginal cost at the relevant time, which takes into account various fluctuating demand and supply factors, such as capacity utilization, expected number of bidders, and likelihood of winning other jobs. The marginal cost may be above or below average cost. In addition, by basing an estimate on historic data, the estimator may be incorporating collusive price increases that pervaded the earlier period.[17]

Damages might instead be calculated using one or more statistical methods. For instance, when pre-bid cost estimates are developed by contracting authorities in a consistent way, one can calculate the average ratio of the winning bid to the cost estimate either for rigged and unrigged jobs separately or for all jobs. When unrigged jobs can be identified with confidence, it is not necessary for the jobs to be comparable, for ratios are being compared, not the jobs themselves. The damage estimate would be the ratio of winning bid to cost estimate for the rigged job minus the average ratio for unrigged jobs, multiplied by the cost estimate for the rigged work. Equivalently, the damage measure would be the cost estimate for the rigged job multiplied by the ratio for unrigged jobs,

16   See Howard & Kaserman, supra note 15, at 364, 370.

17   Id. at 371-72.

subtracted from the rigged bid. Though simple, this measure has certain drawbacks. The approach implicitly assumes that the bid-to-estimate ratio will be the same for all competitive contracts, when that is unlikely to be true. It assumes that the impact of collusion is fully reflected in the bid to estimate ratios, when in fact the ratios may differ from one collusive bid to another. And it does not take into account the number of bidders and other factors besides cost estimate and bid rigging that might influence bidding behavior.[18]

Two other statistical methods require the use of econometric models. One involves the use of a dummy variable. The explanatory variables include the cost estimate, the number of bidders, and the dummy variable, which is one if the job is rigged and zero otherwise, along with a disturbance term. The dependent variable is the winning bid. The model is estimated over the entire sample of rigged and unrigged bids. To estimate damages for any particular contract using this model, the dummy variable is set at zero, while the other variables remain the same, and a predicted competitive bid is generated. This model allows more factors to be taken into account than does the bid-to-estimate ratio approach, but it assumes that the structural parameters are the same across rigged and unrigged contracts, and this assumption may or may not be true.[19]

The second econometric method is the forecasting approach. It is similar to the dummy variable approach, except that the dummy variable indicating whether the individual contracts were collusively determined is omitted, and the model is estimated over the subsample of unrigged jobs only. Thus, the regression explains winning bids on the basis of cost estimates, number of bidders, and possibly other relevant variables. By then substituting observed values of the independent variables on rigged jobs into the estimated equation, predicted winning bids are generated in the absence of collusion. These would be the presumed competitive prices and would be subtracted from the actual bids to determine damages. This approach allows more factors to be taken into account than either of the other statistical methods, but tends to be data intensive. Which of the two

18   See Kuhlman & Johnson, supra note 15, at 728-31; Howard & Kaserman, supra note 15, at 375-77.

19   See Howard & Kaserman, supra note 15, at 377-79.

econometric methods will be better will depend upon the circumstances of the individual case.[20]

2. *Special Overcharge Cases*

a. *Limited Collusion*

The standard overcharge measure implicitly assumes that the product, understood to mean the bundle of product and service attributes involved, sold by the cartel is the same product that would have been sold in competition, except that the price is higher and consequently the volume smaller. When the cartel literally fixes price or limits output, the assumption holds. A cartel, however, may agree to restrict other product dimensions. In cases that make economic sense, the price charged by the cartel will exceed the competitive price in any event, and overcharge damages can be calculated.

For instance, in *Catalano, Inc. v. Target Sales*,[21] beer wholesalers agreed to refuse to extend trade credit to retailers. Prior to the agreement, wholesalers had extended credit without interest up to the 30 and 42 day limits permitted by state law, in actual amounts that varied among individual retailers. The Court found that the agreement constituted per se illegal price fixing. If credit is viewed as a discount off the wholesale list price and the agreement is truly anticompetitive, then net price while the agreement was in effect should have been higher than net price absent the restriction. If, on the other hand, wholesalers continued to compete on list price, so that lower list prices were quoted in lieu of credit, then net price would not have been affected by the agreement; indeed, if the agreement reduced transaction costs, as by lowering retailer search costs, the agreement might have resulted in lower net prices. In that event, no overcharge could rationally be calculated.

In the absence of evidence that list price was fixed, one might ask why a cartel would bother restricting credit terms. A cartel might be able to engage in tacit collusion with respect to list prices, and list prices may be readily ascertainable, thereby allowing the collusive price to be policed. Credit terms may be inherently more difficult to verify, and so an agreement to eliminate credit may serve to stabilize the collusive

20   *Id.* at 379-81.
21   446 U.S. 643, 648-50 (1980).

arrangement by limiting competition to one easily verifiable dimension.[22] It is therefore theoretically possible for an agreement to restrict some dimension of competition other than price or output to result in an overcharge, an overcharge that can be calculated by use of conventional means. It is also possible for such agreements to result in no anticompetitive harm.

One could also imagine a horizontal agreement to restrict the variety of product attributes available in the market. For example, suppose brewers agreed to supply beer only in bottles. If the agreement facilitated collusion, one would expect the price of beer in bottles to be higher while the agreement is in effect. The overcharge can be calculated even though it would understate the true measure of lost consumer surplus, because consumers who prefer cans (and would be offered them in a competitive market) would be denied the opportunity to buy them. If price is not higher, however, a court might nevertheless hold that the agreement, by limiting the choices available, constitutes an antitrust violation. The monetary equivalent of the harm caused by such a violation, however, could not be sensibly calculated.

b. *Regulated Prices*

Collusion may occur in regulated industries. When it is not explicitly or implicitly immunized, it can constitute an antitrust violation. Overcharge damages stemming from regulated prices, in theory, can be calculated the same way they are calculated in unregulated settings, except that the analyst must assess whether the hypothetical competitive prices would have been permitted by the regulatory authority. That question involves an analysis of the agency's power to regulate rates and of any statutory constraints imposed on the agency, such as that approved rates may not be discriminatory. Despite the theoretical possibility of

22   For a similar explanation, see Daniel L. Rubinfeld & Peter O. Steiner, *Quantitative Methods in Antitrust Litigation*, 46 LAW & CONTEMP. PROBS. 69, 117 (1983). The authors analyze FTC and private actions challenging a basing point freight system employed by plywood producers. *Id.* at 111-26. They point out that delivered prices to buyers could be competitively determined despite an agreement among producers to charge a price for freight calculated from the same basing point if competition on mill prices is unbounded.

calculating overcharge damages in regulated industries, whether treble damages can be recovered is uncertain. In *Keogh v. Chicago & Northwestern Railway Co.*,[23] the Supreme Court held that a shipper cannot recover damages for railroad rates inflated by a price fixing agreement when the rates are approved by the Interstate Commerce Commission. Though acknowledging the validity of criticism of the *Keogh* doctrine, the Court affirmed the doctrine in *Square D Co. v. Niagara Frontier Tariff Bureau*,[24] largely based on implicit and long-standing Congressional approval of it.

Proper application of the "filed rate doctrine," as it is sometimes called, in contexts other than motor and rail carriage, which is subject to ICC jurisdiction, and in the current era of partial ICC regulation is difficult to determine. For example, in *Carnation Co. v. Pacific Westbound Conference*,[25] the Court allowed a treble damage action for overcharges based on ocean shipping rates subject to regulation by the Federal Maritime Commission in an opinion that undercut much of the rationale articulated in *Keogh*. But the Seventh Circuit applied *Keogh* to preclude an action challenging rail freight rates despite a statutory amendment to the Interstate Commerce Act that substantially abridged the ICC's regulatory power.[26] The Third Circuit held that *Keogh* did not prevent a shipper from recovering for the difference between rail rates actually charged and lower trucking rates that would have been available had the defendant railroads not unlawfully excluded truckers from the market; it did, however, prevent shippers from recovering based on lower rail rates that allegedly would have been charged.[27] The intricacies of this area are beyond the scope of this study.[28]

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23 260 U.S. 156, 162-63 (1922).

24 476 U.S. 409, 419 (1986).

25 383 U.S. 213, 216-17 (1966).

26 *In re Wheat Rail Freight Rate Antitrust Litig.*, 759 F.2d 1305, 1310-12 (7th Cir. 1985), *cert. denied sub nom.* Little Crow Milling Co. v. B & O R.R., 476 U.S. 1158 (1986).

27 *In re Lower Lake Erie Iron Ore Antitrust Litigation*, 998 F.2d 1144 (3d Cir. 1993), *cert. dismissed*, 114 S.Ct. 625 (1993), *and cert. denied*, 114 S. Ct. 921 (1994). The court also held that *Keogh* did not bar recovery for lower dock handling rates that would have been available had the railroads not excluded more efficient dock operators from the market and did not prevent recovery by competing dock and trucking

3. Lost Profits as an Alternative Measure

One possible measure of damages for price enhancement is the profits lost by the plaintiff as a result of the defendants' overcharge. When the plaintiff is not a consumer of the price-fixed product, when, in other words, the plaintiff is injured in its business as opposed to in its property, the most theoretically accurate measure of the injury it sustains is the profits it loses because of the increased costs it incurs as a result of the anticompetitive increase in the price of the input. The sum of the lost profits sustained by intermediate purchasers is the producer surplus lost because of the overcharge. In principle, if an intermediate purchaser faces a perfectly inelastic demand curve in its output market and the defendants inflate the price of the input, the overcharge will cause the plaintiff no harm at all. The plaintiff will sell the same volume at a price that is higher by the exact amount of the illegal overcharge, thereby earning identical profits.

Although the lost profits measure of damages is likely to be more cumbersome than the overcharge measure in a price fixing case, it has considerable theoretical appeal.[29] Such a measure would also eliminate the problem of excessive recovery posed by the indirect purchaser suit, discussed below. For example, if a cartel sells to an intermediate purchaser who resells to another, both purchasers are likely to lose profits as a result of the price fix. Under the *Illinois Brick* rule, the second

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companies excluded from the markets by the defendants. *Compare* Pinney Dock & Transport Co. v. Penn Central Corp., 838 F.2d 1445, 1457 (6th Cir.) (claims based on the defendant railroads' rates for rail haul and dock handling barred by *Keogh*, but not other claims), *cert. denied*, 498 U.S. 880 (1988).

28 For a useful summary of cases, *see* PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW 227.2a, .2b (Supp. 1991). For a scholarly attack on *Keogh*, *see* Stevan E. Bunnell, Note, *The Use of Hypothetical Rates in Antitrust Damages Calculations: Reforming the Keogh Doctrine*, 38 STAN. L. REV. 1141 (1986).

29 *See generally* Jeffrey L. Harrison, *The Lost Profits Measure of Damages in Price Enhancement Cases*, 64 MINN. L. REV. 751 (1980). *But see* Frank H. Easterbrook, *Treble What?*, 55 ANTITRUST L.J. 95 (1986) (arguing that the overcharge, not lost profits, "should be the basis of all [antitrust] damages," including damages from anticompetitive exclusion).

intermediate purchaser, or the indirect purchaser from the cartel, cannot recover damages, in part in order to avoid the possibility that several plaintiffs will recover the same damages. Under a lost profits measure, however, both purchasers could recover, and the recoveries would not be duplicative, for the profits lost by one are conceptually distinct from the profits lost by the other.

The Supreme Court has not explicitly held that any particular measure of damages is required or precluded. In *Thomsen v. Cayser*,[30] the defendant steam ship common carriers fixed prices, and the plaintiff shippers sought damages in the form of the overcharge they were forced to pay and in the form of lost profits. The Court appeared to sanction both measures. The Court noted that the plaintiff was properly made to bear the burden of proof and that the lost profits asserted were not left to speculation. Instead, the profits lost resulted from the loss of identified customers. Ultimately, the Court affirmed a jury verdict that was based solely on the overcharge measure, but the Court's analysis suggested that it would have upheld an award for lost profits as well.[31]

4. *Other Harms from the Overcharge*

a. Suit by Indirect Purchasers

When the direct purchaser resells a price-fixed product, either substantially unchanged or as part of another good, and the demand for the product resold is not perfectly elastic, at least some of the overcharge will be passed on by the direct purchaser to the indirect purchaser in the form of a higher price for the good.[32] Since demand curves are rarely if ever horizontal in practice, indirect purchasers virtually always can legitimately claim to have suffered overcharge harm as a result of a successful price fixing conspiracy. Nevertheless, in *Illinois Brick*,[33] the Supreme Court held that indirect purchasers generally may not recover

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30   243 U.S. 66 (1917).
31   *Id.* at 89.
32   *See* William M. Landes & Richard A. Posner, *Should Indirect Purchasers Have Standing to Sue Under the Antitrust Laws? An Economic Analysis of the Rule of Illinois Brick*, 46 U. CHI. L. REV. 602 (1979).
33   Illinois Brick Co. v. Illinois, 431 U.S. 720, 737-38 (1977).

under Section 4 of the Clayton Act[34] for any part of the overcharge harm sustained. The Court based its decision on a number of concerns: First, the Court had previously held in *Hanover Shoe*[35] that an antitrust defendant may not assert against a direct purchaser plaintiff that part of the overcharge was passed on and that the plaintiff's damages should be reduced accordingly. If such defensive use of the pass-on theory was impermissible but indirect purchasers were allowed to recover through offensive use of the doctrine, the defendant would be exposed to multiple and overlapping liability. The Court believed that symmetrical application of the theory was necessary. It also found that the basis of the *Hanover Shoe* rule was a desire to simplify and to control the costs of antitrust litigation, thereby conserving judicial resources and promoting the private treble damage action as an effective deterrent to anticompetitive conduct. The litigation complexity that was avoided by disallowing the pass-on defense was equally at stake in the offensive-use context, and so the reasoning of *Hanover Shoe* similarly argued for rejecting the claim. The Court therefore was obliged either to overrule *Hanover Shoe* and allow both defensive and offensive use of the theory or to hold in *Illinois Brick* that offensive use, like defensive use, is impermissible.

The Court opted to reject use of the doctrine in both contexts. It was concerned that otherwise antitrust litigation would become dramatically more complex, as all parties in a distribution chain would have to participate in the litigation, and amounts of the overcharge passed on to various levels would have to be calculated. It also believed that concentrating recovery in the direct purchasers, by allowing them to recover the entire overcharge regardless of the proportion passed on, would encourage private overcharge suits by increasing the potential payoff and would therefore promote the deterrence objective of antitrust enforcement.

The *Illinois Brick* Court rejected the argument that exceptions to the pass-on rule should be carved out for particular markets where the direct purchaser is likely to pass on substantially all of the overcharge. The Court noted that classifying market situations according to the amount of pass-on likely to be involved would entail the very problems of litigation complexity that the *Hanover Shoe* rule was meant to avoid. In *Hanover*

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34   15 U.S.C. § 15.
35   Hanover Shoe v. United Shoe Mach. Corp., 392 U.S. 481, 488 (1968).

Shoe, however, the Court did "recognize that there *might* be situations—for instance, when an overcharged buyer has a pre-existing 'cost-plus' contract, thus making it easy to prove that he has not been damaged—where the considerations requiring that the passing-on defense not be permitted in this case would not be present."[36] And in *Illinois Brick*, the Court reiterated this potential exception to the rule precluding offensive and defensive use of passing-on arguments:

In such a situation, the purchaser is insulated from any decrease in its sales as a result of attempting to pass on the overcharge, because its customer is committed to buying a fixed quantity regardless of price. The effect of the overcharge is essentially determined in advance, without reference to the interaction of supply and demand that complicates the determination in the general case.[37]

The Court also noted, "[a]nother situation in which market forces have been superseded and the pass-on defense *might* be permitted is where the direct purchaser is owned or controlled by its customer."[38]

In *Kansas v. Utilicorp United*,[39] the Court reaffirmed the principle of *Hanover Shoe* and *Illinois Brick* and, without conceding that it would recognize any exception to the rule, demonstrated that any such exception would be very narrow indeed. In that case, a group of natural gas producers and a pipeline company allegedly fixed prices. The gas was resold to a regulated utility, which resold to consumers. The utility and other direct purchasers sought damages for both the amount overcharged and the decrease in sales caused by the overcharge. The indirect purchasers—consumers, who were represented by two states in their capacity as *parens patriae*, and the states as representatives of governmental entities who themselves purchased gas—also sued. The defendants asserted that the direct purchasers had not been harmed because they had passed on the entire overcharge pursuant to the mandates of state rate regulation. The indirect purchasers, meanwhile, claimed that they should be allowed to recover the entire overcharge because, given regulatory strictures, they had absorbed all of it, and they

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36   *Hanover Shoe*, 392 U.S. at 494 (emphasis added).
37   *Illinois Brick*, 431 U.S. at 736.
38   *Illinois Brick*, 431 U.S. at 736 n.16 (emphasis added).
39   497 U.S. 199, 208 (1990).

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argued that the direct purchasers should be allowed to recover only for lost business.

The Court rejected the defendants' argument that the direct purchasers had not been injured, and it refused to allow the indirect purchasers' suit.[40] In short, the Court declined to establish an exception to the pass-on rules for cases involving utilities, even when the demand for a product is inelastic and, because of government regulation, the direct purchaser increases the price to indirect purchasers by the exact amount of the overcharge. The Court acknowledged "the possibility of an exception for cost-plus contracts," but found that any such exception would be narrower than the one sought in that case for utilities generally.[41]

The pass-on rules of *Hanover Shoe* and *Illinois Brick* have evoked a lively scholarly debate.[42] Moreover, political opposition to that part of the doctrine which precludes indirect purchaser suits has been substantial. Numerous bills have been introduced in Congress to overturn all or part of the rule.[43] Though none of these so-called *Illinois Brick* repealers has been enacted, various states have adopted rules that permit indirect purchasers to recover under state antitrust laws.[44] Indirect purchaser suits can be authorized either by explicit statutory provision or by judicial interpretation of statutes that are ambiguous on the issue.

The Court was not asked to consider the propriety of the direct purchasers' claim for damages based on lost sales.

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40   *Utilicorp United*, 497 U.S. at 418.
41   *See, e.g.*, Robert G. Harris & Lawrence A. Sullivan, *Passing on the Monopoly Overcharge: A Comprehensive Policy Analysis*, 128 U. PA. L. REV. 269 (1979); William M. Landes & Richard A. Posner, *The Economics of Passing on: A Reply to Harris and Sullivan*, 128 U. PA. L. REV. 1274 (1980); Landes & Posner, *supra* note 32; John Cirace, *Price-Fixing, Privity, and the Pass-On Problem in Antitrust Treble-Damage Suits: A Suggested Solution*, 19 WM. & MARY L. REV. 171 (1977); George J. Benston, *Indirect Purchasers' Standing to Claim Damages in Price Fixing Antitrust Actions: A Benefit/Cost Analysis of Proposals to Change the Illinois Brick Rule*, 55 ANTITRUST L.J. 213 (1986); Herbert Hovenkamp, *The Indirect-Purchaser Rule and Cost-Plus Sales*, 103 HARV. L. REV. 1717 (1990); Harrison, *supra* note 29, at 777.
43   *See* Benston, *supra* note 42, at 214.
44   For examples, *see* California v. ARC America Corp., 490 U.S. 93, 98 n.3 (1989).

In *California v. ARC America Corp.*[45] the Supreme Court held that federal antitrust law, as interpreted in *Illinois Brick*, does not preempt state rules that allow recovery by indirect purchasers. As a result, in a federal antitrust action, the need to apportion overcharge damages between direct and indirect purchasers has virtually been eliminated -- a direct purchaser plaintiff need only prove the aggregate overcharge, and an indirect purchaser cannot recover. When antitrust claims are asserted under state laws, whether in conjunction with federal claims or independently, the proportion of an overcharge incurred by a direct purchaser and the proportion passed on to indirect purchasers may have to be determined.[46]

The fact that a state permits indirect purchaser suits does not necessarily mean that overcharges will have to be apportioned, however. As a constitutional matter, a state apparently may reject the symmetry the Supreme Court found compelling in *Illinois Brick* and allow the direct and indirect purchasers each to recover the whole overcharge, thereby condoning multiple liability. In *ARC America* the Court said: "Ordinarily, state causes of action are not pre-empted solely because they impose liability over and above that authorized by federal law, and no clear purpose of Congress indicates that we should decide otherwise in this case."[47] And theoretically an antitrust defendant could be required to pay the entire overcharge in damages to the direct purchaser in a federal action and the same amount to the indirect purchaser in a state action.[48]

b. Umbrella Effects

In general, if a group of firms collectively has a sufficiently large share of a market and entry into the market and expansion are impeded, the group can exercise market power through express or tacit collusion even though the group does not include all of the suppliers in the market. A

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45   490 U.S. 93, 101-02 (1989).

46   For a discussion of the problem, see John Cirace, *Apportioning Damages Between Direct and Indirect Purchasers in Consolidated Antitrust Suits: ARC America Unravels the Illinois Brick Rule*, 35 VILL. L. REV. 283 (1990).

47   *ARC America*, 490 U.S. at 105 (citations omitted).

48   See PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶337.4 (Supp. 1991).

residual demand curve can be calculated for the group, which represents the market demand curve minus the supply curve of the non-participating suppliers, and a profit-maximizing, supra-competitive price for the group can be ascertained.[49] The group can raise price collusively, though not by as much as it could absent the competitive fringe. In response to such collusion, a rational non-participant, who was and remains a price taker, will also raise prices. This phenomenon has been called the "umbrella effect," in that the competitive-firm raises its prices under the protection of the price umbrella unfurled by the cartel. A buyer that purchases from such a competitive firm in a cartelized market will therefore pay more for the product than it would have paid absent collusion. This overcharge poses two principal questions: Can non-participants practically be distinguished from participants when all firms in the market are charging supra-competitive prices, and may the buyer recover overcharge damages for purchases made from non-participants?[50]

Sometimes, direct evidence may indicate which firms were and were not conspiring, as when documentary evidence reveals a pattern of price communication among a distinct subset of firms in a market. Even absent such evidence there is a theoretically simple empirical test to distinguish participants from non-participants: During the period of price enhancement, the market shares of non-participants should increase.[51] The rationale of this test is straightforward: Participating firms will increase price by reducing output. Assuming non-participants have upward-sloping marginal cost curves, they will increase output to the point where their marginal costs equal the new price. The shape of their

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49   See DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 231-36 (1990).

50   Technically, distinguishing participants from non-participants is an issue of liability, but it is closely related to the issue of damages.

51   See Roger D. Blair & Richard E. Romano, *Distinguishing Participants from Nonparticipants in a Price-Fixing Conspiracy: Liability and Damages*, 28 AM. BUS. L.J. 33 (1990). An equivalent test is that the output of non-participants will increase whereas the output of participants will contract, relative to the respective outputs of the firms in the absence of collusion. The advantage of expressing the test in terms of market share is that it is determinative even if demand is increasing, when the outputs of both may increase, though at different rates. See id., at 51.

marginal cost curves, or collectively the short-run supply curve of the competitive fringe, implies that non-participants can profitably expand output if market price increases, but only to a point. Of course, over time, long-run supply responses in the form of new entry and expansion by the competitive fringe that is only profitable in the long run may force price back to the competitive level. But the immediate effect of the differing supply actions of participants and non-participants will be a shift in market share from the former to the latter, and that will not only serve to distinguish between the two but help to identify the beginning of the collusive period.[52]

Other methods of identifying non-participants are no doubt possible. For example, the increase in profits should be greater for non-participants than for participants, and one could attempt to measure the profits of all firms directly.[53] No matter how sound an econometric test is in theory, however, its usefulness is constrained by practical problems of measurement and data availability, including the difficulties of obtaining data from nonparticipants who are not parties to the litigation. These problems may render some tests, like an analysis of profits, wholly unusable, and they may even make a test as simple and elegant as the market shares test harder to apply than one would predict. Assuming, however, that non-participants can be identified, the question remains as to whether those who purchase from them may and ought to be able to recover damages.

A price increment that is paid for a product because suppliers have colluded satisfies the basic requirement of actual causation, as well as the rudiments of antitrust injury and antitrust standing, regardless of whether the seller participated in the conspiracy.[54] Courts have split on whether to

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52   A version of this test reportedly was accepted by the court in E.W. French & Sons v. General Portland, Inc., Civ. Action No. 78-1928-TH (Tx) (C.D. Cal. Oct. 2, 1985). The decision is discussed in Blair & Romano, *supra* note 51, at 41 & n.16.

53   *See* Blair & Romano, *supra* note 51, at 41 & n.16.

54   *See* William H. Page, *The Scope of Liability for Antitrust Violations*, 37 STAN. L. REV. 1445, 1465-67 (1985); Roger Blair & Virginia Maurer, *Umbrella Pricing and Antitrust Standing: An Economic Analysis*, 1982 UTAH L. REV. 763 (1982).

allow purchasers from non-participants to recover from participants.[55] Courts that have refused to allow recovery have done so on various grounds. Some have reasoned that damages for amounts paid to third parties are inherently speculative and that determining the existence and level of overcharge paid as a result of the defendants' conspiracy would involve the litigation complexity the *Illinois Brick* Court sought to avoid.[56] Others have expressed reluctance to impose liability on defendants who have received no direct benefit from the plaintiff's purchases.[57] This

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55   *See* AREEDA & HOVENKAMP, *supra* note 48, at ¶337.3. The possibility of recovery from members of a cartel for purchases from competitors of the cartel is conceptually distinct from the issue of recovery from cartel members for purchases from co-conspirators who are not named as defendants. Given that the Supreme Court has held that antitrust defendants have no right of contribution (Texas Indus. v. Radcliff Materials, 451 U.S. 630 (1981)), lower courts have had no trouble allowing recovery for purchases from non-defendant co-conspirators. *See, e.g., In re* Arizona Dairy Prods. Litig., 627 F. Supp. 233, 236 (D. Ariz. 1985) ("It is undisputed that any participants involved in the alleged conspiracy are jointly and severally liable with no right to contribution."); *In re* Uranium Antitrust Litig., 552 F. Supp. 518, 522 (N.D. Ill. 1982) ("it has long been the law that an antitrust defendant is jointly and severally liable for the acts of its co-conspirators").

56   *See, e.g.*, Mid-West Paper Prods. Co. v. Continental Group, 596 F.2d 573, 583-87 (3d Cir. 1979) ("The outcome of any attempt to ascertain what price the defendants' competitors would have charged had there not been a conspiracy would at the very least be highly conjectural."); *In re* Folding Carton Antitrust Litig., 88 F.R.D. 211, 220 (N.D. Ill. 1980) ("In light of the Supreme Court's overriding concern with the burdensome proof in *Illinois Brick* and the similar complications in this case, . . . plaintiffs do not have standing to sue the defendants from whom they did not purchase . . . .").

57   *See, e.g., Folding Carton Antitrust Litig.*, 88 F.R.D. at 220. In one case, the plaintiff claimed that the defendants' conspiracy to *suppress* price induced the plaintiff's competitors to *increase* price, and it sought overcharge damages based on purchases from those competitors. Reading Indus. v. Kennecott Copper Corp., 477 F. Supp. 1150, 1154 (S.D.N.Y. 1979), *aff'd*, 631 F.2d 10 (2d Cir. 1980), *cert. denied*, 452 U.S. 916 (1981). Though in denying standing the court called the

concern is related to a deterrence objective of antitrust damages only in the sense that, assuming liability is certain, depriving the defendants of the fruits of their illegal activity will ordinarily be sufficient to deter it. Other courts have permitted recovery.[58] Indeed, the weight of authority seems now to be on the side of recognizing the claim for damages. Of course, an indirect purchaser from a non-member of a cartel would be precluded from recovering by simple application of the *Illinois Brick* rule.[59]

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plaintiff's arguments "respectable," it may have been influenced by the lack of any plausible economic basis for the claim.

[58] *See, e.g., In re Beef Indus. Antitrust Litig.*, 600 F.2d 1148, 1166 n.24 (5th Cir. 1979) ("It is enough if, as alleged, the conspirators' activities caused a general depression in wholesale prices and the intermediary purchasing from a plaintiff based his pricing decision on the depressed wholesale beef price."), *cert. denied*, 449 U.S. 905 (1980); *In re Arizona Dairy Prods. Antitrust Litig.*, 627 F. Supp. 233, 236 (D. Ariz. 1985) (allowing "claims against non-conspirator non-defendants"); *In re Uranium Antitrust Litig.*, 552 F. Supp. 518, 525 (N.D. Ill. 1982) ("Once it is established that nonconspirators have charged more than competitive prices, the inference that the cost increase was caused by the cartel is inescapable."); *In re Bristol Bay Salmon Fishery Antitrust Litig.*, 530 F. Supp. 36, 39 (W.D. Wash. 1981) ("Since the sales by the fishermen to conspirators and non-conspirators were all direct, the computation of damages is no more complex for one than for the other."); *Strax v. Commodity Exch.*, 524 F. Supp. 936, 938-41 (S.D.N.Y. 1981); *Pollock v. Citrus Assocs. of the N.Y. Cotton Exch.*, 512 F. Supp. 711, 718-19 (S.D.N.Y. 1981) ("Regardless of whether the plaintiffs ultimately purchased offsetting contracts from the defendants or from other traders with a long position, the price throughout the market allegedly rose as a result of the defendants' activities.") (footnote omitted); *Wall Prods. Co. v. National Gypsum Co.*, 357 F. Supp. 832, 840 (N.D. Cal. 1973) ("it is clear that the defendants are not only liable for overcharges sustained from purchases from them, but also for overcharges resulting from purchases made from non-conspirators"); *Washington v. American Pipe & Constr. Co.*, 280 F. Supp. 802, 807 (W.D. Wash. 1968) ("[Defendant] is liable for damages sustained on all sales which were affected by the elimination of competition. The identity of the pipe seller, whether conspirator or not, is irrelevant.").

[59] *See In re Coordinated Pretrial Proceedings in Petroleum Prods. Antitrust Litig.*, 691 F.2d 1335, 1340-41 (9th Cir. 1982), *cert. denied sub nom California v. Standard Oil Co.*, 464 U.S. 1068 (1984). Although the

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Although the argument that determining the overcharge on purchases made from non-participants is unduly complex has little weight when the participants and non-participants sell the same, homogenous product, the argument has somewhat more substance when the firms sell substitute products. As the price of the cartelized product increases, demand will shift to the substitute product, causing the price of that product to rise. Though determining the increment in price caused by a collusive increase in price of a related product is likely to require calculations that control for more variables than would be necessary in the case of a single product, the task is no different in kind.[60] Whether the task would be prohibitively different in degree will depend upon the facts of each case.

c. Overcharge Incident to Exclusion

Suppose a group of suppliers conspires to drive a more efficient competitor out of the market or, equivalently, prevent a more efficient supplier from entering the market. The excluded firm would have a claim for antitrust damages based on lost profits, as discussed in Chapter 7. But purchasers from the conspirators would also have antitrust claims because they pay higher prices as a result of the exclusionary practice. The basic measure of their damages is the same as the measure used in

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court expressly reserved the question of whether it would recognize the umbrella theory in a situation involving a "single class of direct purchasers from non-conspiring competitors of the defendants," *id.* at 1340, it expressed concern over the complexity of making the necessary determinations in umbrella pricing cases that would be germane in even that simple context. The court noted, "[T]he result of any attempt to ascertain with reasonable probability whether the non-conspirators' prices resulted from the defendants' purported price-fixing conspiracy . . . would be too speculative to some degree." *Id.* at 1341 (footnote omitted).

[60] When a market consists of differentiated products, there will be equilibrium price differentials that prevail prior to collusion. A collusive price increase in any subset of these products should result in a higher price structure that exhibits a new set of equilibrium price differentials. Thus, all prices will rise. *See Blair & Romano, supra* note 51, at 40-41. Analogously, if two products are viewed as being in separate markets but are substitutes, an equilibrium price differential should prevail before collusion begins, and a new, higher one thereafter.

typical collusion cases – the difference between the price actually paid and the price that would have been paid absent collusion, multiplied by quantity. There are differences between the cases, however. First, the actual price in the pure collusion case exceeds marginal cost, while in the exclusion case, the actual price might equal marginal cost, but nevertheless be higher than the marginal costs of the excluded competitors. Second, in the typical collusion case, but for the overcharge, the plaintiff would have purchased from the defendants at the competitive price; in the exclusion case, but for the defendants' exclusion of more efficient rivals, purchasers would have shifted at least some of their business to the rivals.

Although these differences pose no theoretical bar to recovery in the exclusion case, they do imply certain unique theoretical and practical difficulties. For example, it may be difficult to prove that a supplier who did not enter the market would have done so but for the exclusionary activity. Moreover, proving how much the excluded firm influenced the price is likely to be difficult. A firm entering a market with a cost advantage will set a price just below that of its rivals, not necessarily at its own cost.

Of course, so long as the cost advantage of the excluded firm could be duplicated by others, competition would eventually force the market price down to the marginal cost of the more efficient firms. Indeed, the conspirators themselves might switch to the more efficient technology. But this process of expanding the capacity of low-cost supply, to the point at which it could satisfy market demand, is predictably time consuming. A theoretically-sound damage calculation presumably would have to take account of the fact that, absent the defendants' unlawful conduct, the plaintiffs would not have been able to make all of their purchases immediately from low-cost, excluded suppliers. Rather, the but-for price would have dropped gradually as additional, low-cost capacity entered the market.

In *In re Lower Lake Erie Iron Ore Antitrust Litigation*,[61] the Third Circuit affirmed an award of damages based on the theory that the

61 998 F.2d 1144 (3d Cir. 1993), *cert. dismissed*, 114 S.Ct. 625 (1993), *and cert. denied*, 114 S. Ct. 921 (1994). For a related case, see Pinney Dock & Transport Corp. v. Penn Central Corp., 838 F.2d 1445 (6th Cir. 1988), *cert. denied*, 498 U.S. 880 (1988).

defendants conspired to exclude more efficient suppliers in three vertically-related markets. Steel companies alleged that the defendant railroads, which also owned and operated docks, conspired to prevent the introduction of a more efficient method of transporting iron ore across the Great Lakes and over land to steel plants. The defendants were found to have delayed the entry of more efficient self-unloading vessels into the lake transport market, thereby preserving the need for the railroads' less efficient dock operations. They also were found to have delayed the entry of trucks into the market for land transportation of ore, thereby forcing steel companies to use less efficient rail transportation. The court allowed the steel companies to recover damages based on the lower prices they would have paid to the truckers, though the *Keogh* doctrine was held to bar any claim that they would have paid lower rail transport rates absent the conspiracy.[62] The steel companies were allowed to recover for the difference between dock handling charges actually paid and the charges that would have been paid had more efficient dock operators not been excluded.[63] And they were allowed to recover the overcharge on lake transport caused by the exclusion of self-unloaders.[64]

One can also imagine hybrid cases in which firms collude to fix price above their marginal costs and to exclude more efficient rivals. Overcharge calculations in such cases should reflect both the immediate effect on price that elimination of the price fixing conspiracy would have had and the gradual effect from entry of more efficient rivals.

d. Deadweight Loss

It is the fundamental law of demand that as the price of a product increases the amount purchased decreases. A collusive price increase, therefore, will result in a reduction in the quantity of the good purchased. That reduction can take the form either of smaller quantities bought by those who purchase some amount or the failure to purchase any quantities by those who would purchase at lower prices. For purposes of economic analysis, these categories of purchasers are indistinct, but the difference may play a practical role in proving damages, as the discussion

62 *See Lake Erie*, 998 F.2d at 1169-70. The *Keogh* doctrine is discussed *supra*.

63 *Id.* at 1168-69.

64 *Id.*

below suggests. The volume not purchased because of an anticompetitive price increase represents a loss of allocative efficiency because it implies that consumers would have derived more value from having the good than it would have cost society to produce those units of the good. Of course, those consumers will substitute other products, but the value derived from the substitutes will be less than the value they would have derived from the price-fixed product.[65]

The allocative inefficiency is illustrated by the deadweight social loss triangle in the standard depiction of monopoly pricing. It is in theory a component of the optimal penalty, and like the overcharges associated with umbrella pricing, it satisfies requirements of causation and antitrust injury. But calculation of private damages based on deadweight loss is problematic. First, there are obvious practical problems associated with proving what purchases would have been but were not made. In this respect, the difference between a purchaser who buys less and one who does not buy at all may be significant. Direct evidence that the volume purchased was decreased is likely to be more substantial and probative than evidence that a non-purchaser would have purchased.

Second, the overcharge is not readily usable in theory as a measure of the loss of allocative efficiency. The difference between the price charged and the competitive price (or the price that would have been charged absent the illegal agreement), when multiplied by the quantity actually purchased, is an accurate measure of the wealth transfer from consumers to producers resulting from the violation.[66] That increment multiplied by the quantity that could have been profitably supplied but was not sold, however, overstates the deadweight loss. The reason is that if the cartel had increased output, its price would have gradually fallen. This is

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65   *See* Page, *supra* note 54, at 1465.

66   For simplicity, this analysis assumes constant marginal costs. If instead the short-run supply curve is upward sloping, as the cartel restricts quantity, marginal costs drop. At the supra-competitive price, marginal cost is less than it is at the competitive price. One could say that the wealth transfer from consumers to producers is the difference between actual price and the marginal cost of producing the restricted quantity. The associated increment of wealth, however, is not surplus that consumers would have gained in a competitive market. That increment would have been producer surplus.

another way of saying that, because demand curves slope downward, deadweight losses are represented by triangles, not rectangles. Thus, even if it could be determined how much more of the product would have been sold at the competitive price and to whom, multiplying that amount by the difference between actual price and presumed competitive price would result in excessive damages, understood in an economically meaningful sense. An accurate theoretical measure would require a downward adjustment, and that adjustment would depend upon the shape of the demand curve.[67] In the end, no tolerably-precise adjustment has proven feasible.

In *Montreal Trading v. AMAX, Inc.*,[68] the court held that one who never purchases a product because the defendants limit production as part of a price fixing conspiracy cannot recover damages. The court found three considerations dispositive. First, *Illinois Brick* expressed the view that the treble damage remedy is designed in part to deprive violators of the fruits of their illegality, and conspirators gain no fruits on non-sales, except to the extent that volume had to decline in order to earn monopoly profits on the quantity sold. Second, a grant of standing might result in potentially disastrous recoveries by those only tenuously hurt. And third, the fact of a party's injury, as opposed to the amount, may be inherently speculative.[69] The court did comment, however, that damages might be permitted when "the nonpurchaser can show a regular course of dealing with the conspirators."[70] Though the court's holding can be supported on

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67   When the demand and supply curves are linear, the difference between actual price and competitive price multiplied by the quantity not sold will equal twice the deadweight loss. *Cf.* Frank H. Easterbrook, *Detrebling Antitrust Damages*, 28 J. L. & ECON. 445, 455 (1985) (when the demand and supply curves are linear, the overcharge on the quantity sold equals twice the deadweight loss). One could imagine a rule that allowed damages before trebling equal to one-half the overcharge on volume not purchased. Given the general problems of proving damages for purchases not made together with the lack of justification for assuming that demand and supply curves are typically linear, the utility of such a rule is doubtful.

68   661 F.2d 864, 867-68 (10th Cir. 1981), *cert. denied*, 455 U.S. 1001 (1982).

69   *Montreal Trading*, 661 F.2d at 868.

70   *Id.*

the analysis above, even if not on the rationale the court offers, allowing recovery by those who prove a curtailment of their regular purchases could result in excessive liability if overcharge damages are measured in the conventional way.

Because there is no practical way to measure theoretically-accurate damages for the quantity not sold,[71] the choice appears to be either to permit excessive recovery or to impose inadequate liability. This choice, however, assumes that the damage multiple simply reflects the probability of liability being incurred. If the probability is in fact greater than 33 percent, then three times the overcharge on the quantity sold may be an accurate measure of the optimal penalty. If, on the other hand, the probability is equal to or less than 33 percent, then excluding damages for the quantity not sold will result in inadequate deterrence, and permitting recovery of these damages may not be excessive. The resolution of this issue is indeterminate.

B. Vertical Price Fixing

Vertical price fixing cases are likely to be brought either by a direct purchaser from a party to the agreement, usually a customer of a firm at the lowest level of the vertical conspiracy, or by a firm in the distribution chain who accedes involuntarily to the illegal restriction or refuses to accede and is cut off as a result. In either category of cases, assessing potential measures of damages requires an analysis of the explanation for the restraint, bearing in mind that distribution restrictions in theory can serve either to enhance efficiency or to facilitate supra-competitive pricing. In general, customer plaintiffs may suffer compensable injury that can be calculated with acceptable precision; plaintiffs who are present or excluded participants in the restraint are less likely to be able to prove damages.

Vertical price fixing can be associated with supra-competitive prices if the scheme serves to facilitate a dealers' cartel or a suppliers' cartel.[72]

71. *But see* Melanie W. Havens, Michael F. Koehn & Michael A. Williams, *Consumer Welfare Loss: The Unawarded Damages in Antitrust Suits*, 15 U. DAYTON L. REV. 457, 462-63 (1990) (arguing that calculating deadweight loss typically would be easy).

72. *See, e.g.,* Business Electronics Corp. v. Sharp Elecs. Corp., 485 U.S. 717 (1988); RICHARD A. POSNER & FRANK H. EASTERBROOK, ANTITRUST:

When the resale price maintenance scheme facilitates cartel pricing, a customer of a dealer would suffer overcharge damages that are analytically identical to the damages suffered by a direct purchaser from an ordinary horizontal cartel. Accordingly, damages would be calculated in the same way.

A number of efficiency-enhancing explanations have also been offered for resale price maintenance,[73] though vertical price fixing agreements are per se illegal regardless of the reasons for or effects of them. The most widely accepted is the "free-rider," or "special services" theory.[74] In this theory, the supplier recognizes that sales will be maximized only if dealers provide costly pre-sale services. Some dealers provide the services, incurring the attendant costs, but others do not. Customers make use of the services provided by full-service dealers, then buy the product from free-riding dealers, who can afford to charge a lower price because they have not incurred the costs of service. Eventually full-service dealers refuse to incur costs that result in no return, and so pre-sale services cease to be offered. By setting a minimum resale price at the level necessary for dealers to offer pre-sale services and make an accounting profit, the supplier can induce the optimal amount of services. Dealers no longer have the ability to free ride on others, for if they do not provide services they will lose business to dealers who do, and they are restrained by the agreement from siphoning sales by offering a lower price.

If a customer sues a dealer in a vertical price fixing arrangement *that increases efficiency,* such as by eliminating the free rider problem, even though the defendant will likely be liable, the customer will not be able to assert a sensible theory of damages. Although price will be higher than would have prevailed absent the agreement, the package of product and service sold will also be different and better. Indeed, an efficiency-enhancing restriction will result in greater consumer surplus than would

CASES, ECONOMIC NOTES, AND OTHER MATERIALS 211-12 (2d ed. 1981); Pauline M. Ippolito, *Resale Price Maintenance: Empirical Evidence from Litigation,* 34 J. L. & ECON. 263, 292 (1991).

73. For a summary, *see* Ippolito, *supra* note 72.

74. Though the special services theory is used in this section in the explication of damage principles, the conclusions are the same regardless of the source of the efficiency.

have been enjoyed absent the restraint. The restraint, therefore, far from causing injury, bestowed a benefit upon the plaintiff.

The demand for services may vary among customers. Because the supplier is interested in maximizing profits, the supplier is concerned with the demand of the marginal customer. Indeed, in theory, a vertical restraint may reduce consumer welfare by inducing a level of service desired by the marginal consumer but not by infra-marginal consumers.[75] The implication of this is that a consumer who did not want the services induced by a vertical restraint could claim injury. No one has yet demonstrated that this theory of welfare loss can be used in practice to identify harmful resale price maintenance. A consumer would have difficulty proving that she had not derived value from services admittedly provided. Moreover, that consumer preferences for services differ is a necessary but not sufficient condition for this theory of welfare loss to operate. A restriction might increase consumer surplus even though some individual consumers would have preferred less service at a lower price. Even if a consumer could prove to have suffered this kind of individual injury, that would not prove there was an aggregate welfare loss. In short, if pre-sale services were provided because of the restraint, no consumer will be able to prove antitrust injury.[76]

When the plaintiff is a dealer who either unwillingly complies with the vertical price restriction or refuses to comply and is consequently cut out of the distribution chain, the usual measure of damages asserted is the profits that would have been earned had the dealer been allowed to price freely. If the system of resale price maintenance increases efficiency by eliminating free riding, then the dealer's claim amounts to an assertion that the dealer was entitled to earn whatever profits were available from free riding on the investments of others in the distribution chain. Courts have rejected the argument. As one court explained: "The prevention of free riding is not, as yet anyway, a defense to a charge of resale price maintenance; but neither is it being prevented from taking a free ride on

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75 *See* William S. Comanor, *Vertical Price-Fixing, Vertical Market Restrictions, and the New Antitrust Policy*, 98 HARV. L. REV. 983 (1985).

76 *See* Roger D. Blair & James Fesmire, *The Resale Price Maintenance Policy Dilemma*, 60 SOUTHERN ECON. J. 1043 (1994).

another dealer's efforts a form of antitrust injury compensable by a damage award."[77]

Of course, the dealer could recover profits lost because of the restraint that were not attributable to free riding. In practice, this presumably means that the dealer could prove that it provided the same services as other dealers, so that it could not have been free riding. As a matter of theory, one could imagine a resale price set by a supplier calculated to stimulate the optimal level of services by the average dealer. Suppose a dealer was for some reason uniquely more efficient than other dealers in providing the services. The supplier would prefer that all dealers achieve the greater efficiency, but assume that the dealer in question enjoys some advantage that cannot be duplicated. This dealer could profit by charging less than the stipulated price without free riding. Yet recognizing injury in such a case implies that the supplier is not allowed to organize the distribution system in the most efficient way – by calculating price and service on the basis of average dealer performance. Allowing recovery of lost profits may ultimately reduce both productive and allocative efficiency. This result, however, if the case were ever presented, might be an unavoidable by-product of a substantive rule of per se illegality for vertical price fixing agreements.

If instead the vertical price fixing arrangement facilitates collusion, the premise of the injured dealer's claim is different: Monopoly profits are being earned in the market, and the claim is that the dealer is entitled to a greater share of those profits than the dealer would have earned by charging the fixed price. If the collusion occurs at the dealer level, the plaintiff could profit by providing the same services offered by other dealers and simply shading price. If suppliers are the source of the collusion, the plaintiff dealer may have to cut prices and free ride on the investments of other dealers. In either case, the dealer is effectively seeking antitrust protection for diverting sales from participants in a cartel and thereby earning profits that would not have been available at all in a competitive market. At least one court has held that the loss of profits made possible by an antitrust violation does not constitute antitrust

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77 Isaksen v. Vermont Castings, 825 F.2d 1158, 1165 (7th Cir. 1987), *cert. denied*, 486 U.S. 1005 (1988).

injury.[78] It is possible to argue, however, that a price-cutting dealer's lost profits should be antitrust injury because its increased output undermines the collusive price.

C. Single Firm Monopoly Pricing

The offense of monopolization requires possession of monopoly power and exclusionary conduct, or conduct that excludes rivals on some basis other than efficiency.[79] When a direct purchaser from an illegal monopolist sues, the obvious measure of damages is the overcharge. Overcharge damages can be calculated in the usual way, by determining a hypothetical competitive price, subtracting it from the actual price, and multiplying the resulting number by the quantity actually purchased. Issues explored earlier concerning the indirect purchaser rule, umbrella effects, and deadweight loss are equally relevant in the context of monopolization. The only conceptual difference is that, instead of a group of firms conspiring to charge a supra-competitive price, a single firm charges the monopoly price.

In practice, however, the determination of a hypothetical competitive price may be more difficult in the case of a monopolist than in that of a cartel. Depending upon the scope of the monopoly, a yardstick firm may be especially hard to find. To the extent that monopolies are more durable than cartels, periods of competition before, after, or during the span of monopoly pricing are apt to be harder to identify, or if located, less likely to yield useful data.

Moreover, the analysis is complicated when the monopolist's power is not solely derived from its impermissible exclusionary conduct. One court has held that "a purchaser may recover only for the price increment that 'flows from' the distortion of the market caused by the monopolist's anticompetitive conduct."[80] The court was concerned, for example, with

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78 Local Beauty Supply v. Lamaur Inc., 787 F.2d 1197, 1202-03 (7th Cir. 1986). *See also* Easterbrook, *Treble What?*, *supra* note 29, at 98-99.

79 *See* United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966); Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 605 (1985).

80 Berkey Photo v. Eastman Kodak Co., 603 F.2d 263, 297 (2d Cir. 1979), *cert. denied*, 444 U.S. 1093 (1980). The holding is criticized on a number of grounds in James R. McCall, *The Disaggregation of*

the firm that acquired a monopoly through superior efficiency or foresight, then preserved or strengthened its position by the use of exclusionary practices. The disaggregation rule assumes that part of a monopoly overcharge may be attributable to market power legitimately procured, part to market power unlawfully obtained; if the entire overcharge could have been extracted by virtue of monopoly power legitimately procured, regardless of exclusionary conduct, presumably the plaintiff would be entitled to no damages, for the antitrust violation would have caused no marginal harm. The task imposed on the analyst, therefore, is to ascertain the price that would have prevailed absent the exclusionary conduct, a price that by hypothesis is greater than the competitive price but less than the actual price.[81]

D. Tying Arrangements

A tying arrangement can be defined as the sale of one product on the condition that the purchaser buy a second product from the seller (or not from anyone else).[82] Tying arrangements are said to be per se illegal, though the per se rule is qualified when applied in this context – the seller must have market power in the tying product, a not insubstantial amount of commerce must be affected in the tied product, and the arrangement may avoid condemnation if it serves some recognized, legitimate purpose.[83] A full economic analysis of tying arrangements is complex, controversial, and beyond the scope of this monograph.[84] The

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81 *Damages Requirement in Private Monopolization Actions*, 62 NOTRE DAME L. REV. 643 (1987).
The *Berkey* court expressly declined to comment on how the burden of proving the causal relationship between misconduct and damages, or lack of it, should be allocated once the plaintiff makes a preliminary showing of persistent monopoly power and a substantial history of anticompetitive conduct. *Berkey*, 603 F.2d at 298 n.58.

82 *See* Northern Pac. Ry. v. United States, 356 U.S. 1, 5-6 (1958).

83 *See, e.g.*, Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 9-18, 34 (1984) (O'Connor, J., concurring).

84 For a useful survey, *see* Keith K. Wollenberg, Note, *An Economic Analysis of Tie-In Sales: Re-examining the Leverage Theory*, 39 STAN. L. REV. 737 (1987). *See also* ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 375-81 (1978); RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 171-84 (1976);

explanations for these arrangements will be noted here only as they relate to damage analysis.

A tying arrangement can injure either competitors of the tied product or purchasers of the tied package. The former kind of injury, exclusionary by nature, is addressed in the next chapter. Injury to purchasers, however, is in theory a type of overcharge harm, the subject of this chapter.

In many of the common explanations of tying arrangements, whatever else may be true, the tied product is sold at a price that exceeds the price at which the same or a similar product could be purchased elsewhere.[85] In particular, many tying arrangements appear to be methods of price discrimination. For example, the tied product may be used to meter the intensity of use of the tying product, and the tie may allow the seller to

[85] F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 565-69 (3d ed. 1990); CARLTON & PERLOFF, *supra* note 49, at 466-80; Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J 19 (1957); WARD S. BOWMAN, JR., PATENT AND ANTITRUST LAW 163-82 (1973); M. L. Burstein, *The Economics of Tie-In Sales*, 42 REV. ECON. & STATISTICS 68 (1960); M. L. Burstein, *A Theory of Full-Line Forcing*, 55 NW. U. L. REV. 62 (1960); Richard S. Markovits, *Tie-ins, Reciprocity, and the Leverage Theory*, 76 YALE L.J. 1397 (1967); Louis Kaplow, *Extension of Monopoly Power Through Leverage*, 85 COLUM. L. REV. 515 (1985); Charles J. Smaistrla, Note, *An Analysis of Tying Arrangements: Invalidating the Leveraging Hypothesis*, 61 TEX. L. REV. 893 (1983).

Tying agreements sometimes obligate the buyer to purchase the tied product from the seller only so long as the seller charges no higher price than is available in the market. *See, e.g.,* International Salt Co. v. United States, 332 U.S. 392 (1947). These arrangements might be devices by which the seller can gather information from buyers about the prices other sellers are charging, perhaps for competitive purposes or perhaps to deter secret price cutting by members of a cartel. *See* John L. Peterman, *The International Salt Case,* 22 J.L. & ECON. 351, 361 (1979). If use of an inferior tied product in combination with the tying product impairs the performance of the tying product and damages the seller's reputation, the seller may insist upon purchase of high quality tied product from it. In such a case, the price of the tied product is likely to be higher than the market price of a similar product, but that similar product will be of lower average quality.

extract higher revenue from those who place a higher value on the tying product, as demonstrated by their more intense use. When the tie is used for this purpose, the price of the tied product must exceed the competitive price, though only by a little. As a result, the purchaser might claim damages measured by the difference between the competitive price of the tied product and the actual price, multiplied by the quantity purchased.[86] The amount is likely to be easy to calculate, because a contemporaneous market price for the tied product is likely to exist.

But, to the extent the tying arrangement is designed to maximize profits that are available from sale of the tying product, a different and higher price would very likely have been charged for the tying product in the absence of the tie. Thus, in the "but for" world of overcharge damage calculation, the simple difference between the actual and market prices for the tied product presents a skewed picture. The court realized this point in *Kypta v. McDonald's Corp.,*[87] and it held that "injury resulting from a tie-in must be shown by establishing that payments for both the tied and tying products exceeded their combined fair market value." Of course, when the tying and tied products are complementary and used in fixed proportions, no greater profit can be extracted from use of a tie than could be earned by sale of the tying product alone at the monopoly price.[88] The implication is that a purchaser could never prove that the price of the tied package exceeded the price that would have been paid for the tying and tied products purchased separately. Even when the products are used in variable proportions, the price for the tied package may be lower than the combined price of the tying product sold at a monopoly price and the tied product sold competitively.[89]

The analysis of products used in fixed proportions does assume that the seller in practice could have extracted the same profit through pricing of the tying product absent the tie. When a tying arrangement is used as a

[86] *See, e.g.,* Bell v. Cherokee Aviation Corp., 660 F.2d 1123, 1133 (6th Cir. 1981) (overcharge measured by difference between price of tied product and its fair market value).

[87] 671 F.2d 1282, 1285 (11th Cir. 1982), *cert. denied,* 459 U.S. 857 (1982).

[88] *See* Bowman, *Tying Arrangements, supra* note 84, at 21-22.

[89] For a helpful illustration, *see* Wollenberg, *supra* note 84, at 747 n.81.

metering mechanism, the question is whether a different metering device would have been lawful and practical. Thus, for example, a piece of paper may be combined with a unit of mechanical copying service to provide one copy. A tie between the machine and paper might allow the seller to charge intense users more than light users. If the supplier could lease the machine and charge rent that varied with the amount of use, no customer could claim that he or she paid more for the tied package of machine and paper than would have been paid for the products acquired separately.

If instead direct metering is impossible or separately illegal, then the purchaser might or might not have been better off absent the tie. Moreover, a tie involving products used in variable proportions can also function to price discriminate. In any case where the tying arrangement is a method of price discrimination and the alternative to the tie is a single, monopoly price for the tying product, or at least a less perfect form of price discrimination, some consumers are likely to be made better off by the tie and others worse off.[90] The plaintiff's ability to satisfy the *Kypta* standard will presumably depend upon a showing that he or she would have fared better under the defendant's best alternative to the tying arrangement.

Whether the plaintiff can satisfy the *Kypta* standard when the tying arrangement serves some function other than price discrimination will depend upon the function involved and the plaintiff's identity and proof. Thus, for example, a tie-in might be used to avoid price regulation in the tying product market.[91] Though one might question whether an antitrust sanction is appropriate for regulatory evasion,[92] the plaintiff would presumably be able to show that he or she paid a higher price for the package than would have been lawfully charged absent the tie. A tie designed to protect the supplier's goodwill by insuring the quality of technologically interdependent products is likely to result in a higher price for the package, but the package will consist of higher quality

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90   In the aggregate, price discrimination is likely to increase allocative efficiency relative to a single price monopoly. This does not imply that price discrimination benefits every purchaser.

91   See Bowman, *Tying Arrangements, supra* note 84, at 19-36.

92   See BORK, *supra* note 84, at 381.

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components. An appropriate calculation will adjust for quality, and the plaintiff may be unable to show harm.

The buyer of tied products may be an intermediate purchaser rather than a consumer. In such a case, the buyer may assert a claim for damages measured not by the overcharge but by the profits lost on sales of the final product that would have been made absent the tie. The court allowed a customer to bring an action for lost profits based on a tying theory in *Barber & Ross Co. v. Lifetime Doors*[93] The defendant manufactured six-panel doors and flush doors; the plaintiff purchased doors, prepared them for installation, and sold them to home builders. The defendant required purchasers to buy three flush doors (the tied product) for every six-panel door (the tying product) ordered. The defendant claimed that there was a scarcity of six-panel doors because of a shortage in a necessary input, an assertion that would at least offer some basis for the counter-intuitive determination of market power in six-panel doors. But the plaintiff alleged that no shortage actually existed, and though the court offered no alternative explanation, it affirmed a jury verdict for the plaintiff that depended upon a finding of market power.

For a period of time, the plaintiff apparently refused to make sufficient purchases of the tied products to fulfill orders placed with it for six-panel doors; afterward, the parties terminated their relationship altogether. The court allowed damages based on lost profits for sales the plaintiff would have made had it been able to purchase all of the six-panel doors it wanted absent the tie and at the price defendant charged. The facts of this case are sketchy and peculiar, and the economic function of the tie accordingly is difficult to discern. If it represents a case of extending market power from the market for six-panel doors to the market for flush doors, however, the court failed to take account of the point recognized in *Kypta* — absent the tie, the defendant would not necessarily have charged the same price for six-panel doors. In effect, the court allowed the plaintiff to claim that it was entitled to all of the six-panel doors it wanted at a price that would not necessarily have prevailed.[94]

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93   810 F.2d 1276 (4th Cir.), *cert. denied,* 484 U.S. 823 (1987).

94   The defendant argued that forcing plaintiff to purchase flush doors that it otherwise would not have bought caused no adverse effect on competition. The court responded that such an effect nevertheless constitutes antitrust injury. *Barber & Ross,* 810 F.2d at 1279 n.1. The

court also suggested that if a tie-in results in a greater share of the tied product market for the defendant, the effect is anticompetitive. *Barber & Ross*, 810 F.2d at 1280, 1279 n.1. However, a tying arrangement that increases the defendant's market share of the tied product does not necessarily reduce efficiency. *See* Wollenberg, *supra* note , at 749 (arguing that the concern is not with the possession of market share but with exploitation of market share). For example, if the tied product is sold at the competitive price, a shift in sales pattern toward the defendant is economically benign.